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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|-----------------------|------------------|
| 10/706,644 | 11/12/2003 | Shuibo Xie | 1856-36301(9782.0-02) | 7026 |

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DAVID W. WESTPHAL
CONOCOPHILLIPS COMPANY - I.P. Legal
P.O. BOX 1267
PONCA CITY, OK 74602-1267

EXAMINER

LANGEL, WAYNE A

ART UNIT PAPER NUMBER

1754

DATE MAILED: 07/27/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

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| | | | |
|------------------------------|------------------------|---------------------|--|
| Office Action Summary | Application No. | Applicant(s) | |
| | 10/706,644 | XIE ET AL. | |
| | Examiner | Art Unit | |
| | Wayne Langel | 1754 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 June 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 17-27 and 39-65 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 17-27 and 39-65 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 June 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|----------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>4-15-04, 4-23-04, 5-13-04, 6-17-04, 10-18-04, 6-30-06</u> | 6) <input type="checkbox"/> Other: _____ |

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The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 17-27, 39-47, 52-56 and 59-65 are rejected under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Schaddenhorst et al. Schaddenhorst et al disclose a CPOX process in the presence of a rhodium-iridium alloy catalyst. (See col. 2, lines 15-58.)

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Claims 48-51, 57 and 58 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schaddenhorst et al as applied to claims 17-27, 39-47, 52-56 and 59-65 above, and further in view of Grieve et al. It would be further obvious from Grieve et al to include cerium as a promoter in the catalyst of Schaddenhorst et al, since Grieve et al disclose cerium as a partial oxidation catalyst component in combination with noble metals, at col. 10, lines 17-38.

Claims 17-27 and 39-65 are rejected under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Grieve et al. No distinction is seen between the process disclosed by Grieve et al, and that recited in applicants' claims. Grieve et al disclose a process for partial oxidation of hydrocarbons (col. 2, lines 4-32), and teach at col. 10, lines 17-26 that the catalyst may be an alloy of rhodium with iridium or ruthenium, optionally including cerium. Accordingly one of ordinary skill in the art could at once envisage the process recited in applicants' claims with the specifically recited catalyst. In any event, it would be prima facie obvious to employ an alloy of rhodium as the catalyst in the process of Grieve et al, since Grieve et al suggest at col. 10, lines 17-26 that rhodium alloys may be employed as catalysts.

Claims 17, 18, 21-27, 39-47 and 52-55 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over McShea, III et al. McShea, III et al disclose a CPOX process carried out in the presence of a catalyst of an alloy of rhodium with either platinum or palladium. (See col. 7, line 28 to col. 8, line 12, and col. 9, lines 1-26. McShea, III et al also disclose at col. 7, lines 28-36 that the catalyst may include a Group VII metal, which would include rhenium.

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Claims 48-51 are rejected under 35 U.S.C. 103(a) as being unpatentable over McShea, III et al as applied to claims 17, 18, 21-27, 39-47 and 52-55 above, and further in view of Grieve et al. It would be further obvious from Grieve et al to include cerium as a promoter in the catalyst of McShea, III et al, since Grieve et al disclose cerium as a partial oxidation catalyst component in combination with noble metals, at col. 10, lines 17-38.

Claims 17, 21-27, 39-47 and 52-55 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Allison et al. Allison et al disclose a CPOX process wherein the catalyst comprises a rhodium-lanthanum alloy. (See the Abstract and col. 11, lines 22-52.)

Claims 48-51 are rejected under 35 U.S.C. 103(a) as being unpatentable over Allison et al as applied to claim 17 above, and further in view of Grieve et al. It would be further obvious from Grieve et al to include cerium as a promoter in the catalyst of Allison et al, since Grieve et al disclose cerium as a partial oxidation catalyst component in combination with noble metals, at col. 10, lines 17-38.

The other references are made of record for disclosing various CPOX processes.

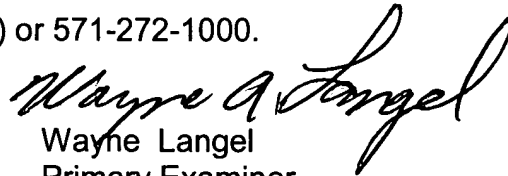
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Wayne Langel whose telephone number is 571-272-1353. The examiner can normally be reached on Monday through Friday, 8 am - 3:30 pm Eastern Time.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stanley Silverman can be reached on 571-272-1358. The fax phone

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number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


Wayne Langel
Primary Examiner
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